Naval Surface Warfare Center Dahlgren Division
Dahlgren Laboratory
Dahlgren, VA 22448

System: **Unmanned Aerial Vehicle (UAV) Non-Lethal (NL) Payload Delivery System**

System Concept: A payload delivery system has been developed to deliver NL munitions from selected UAV platform. The system requires an integration kit to mount the dispensing unit to a selected UAV. Several existing NL munitions are being packaged to fit the universal dispenser. Each dispenser can carry up to 25 rounds of munitions. The total number of dispensers mounted on a UAV is determined by the UAV's payload carrying ability. Therefore, the total number of munitions may vary between each UAV platform. The user will be able to choose the number of rounds to be dropped per pass. The number of rounds to be dropped may be changed while the UAV is airborne. Prior to release of a payload the UAV will dispense a meteorological sensor to measure weather conditions which might effect target accuracy. The UAV is then ready to deliver NL ordnance accurately on target.

Technologies: The system integrates two mature technologies: UAV platforms and existing NL munitions. A software routine has been developed to predict the release point to deliver the munitions on target accurately based on weather conditions and location of the UAV relative to the target.

Maturity: A prototype dispenser has been successfully mounted on the Exdrone and Hunter UAV's. An integration kit is currently being developed to mount the dispenser on the Cypher and Pioneer UAV's.
A Tear Gas simulate has been successfully demonstrated from the Exdrone and Hunter UAV's. Other munitions will be manufactured and deployed from the Exdrone and Hunter UAV's by the end of FY98. This system can be used on any UAV with a minimum of 40 lbs payload carrying ability.
The software routine has been substantiated during testing where the munitions were delivered on target (50 meter diameter). The munitions landed as close as 15 feet from the center of target. (Video tapes of both UAV tests are available)

Missions: Antipersonnel: crowd control, area denial, seize individuals.
Anti-materiel: temporarily disable land vehicles.

Employment: A typical scenario is as follows: The UAV NL payload would be used for crowd control during peace keeping operations. The goal is to deny an area to a crowd of approximately 100 belligerents during a daylight extraction of non-combatants by military personnel. The UAV will be loaded with a NL payload and will be orbiting waiting for instructions to deliver the payloads. Upon the Mission Commanders instruction the UAV will dispense a selected number of NL munitions. The Mission Commander can change the number of rounds that need to be fired against the target based on his assessment of the target.

Point of Contact: Michael S. Abaie (UAV NL Payload Program Manager)
NSWCDD Dahlgren Laboratory, Dahlgren VA 22448
Phone: (540) 653-2719 FAX (540) 653-2687